

# GUIDEBOOK



## **Dot Matrix Automatic Digital Wrist Blood Pressure Monitor**

**Model 04-255-001**



Please read this guidebook completely  
before operating this unit.

People with severe hypertension, severe arteriosclerosis,  
or severe diabetes should consult their physician about  
monitoring blood pressure at the wrist.



**DETAILED  
GUIDEBOOK**

English • French • Portuguese • Spanish

# LIMITED LIFETIME WARRANTY

This MABIS Blood Pressure Monitor is guaranteed to be free from manufacturing defects for the life of the original registered purchaser under normal use. This limited warranty does not apply to use in any clinical or commercial applications. If the unit fails to operate during the lifetime of the original registered purchaser, return it postage prepaid along with \$5.00 for return shipping and insurance to:

MABIS Healthcare Inc.  
Attn: Repair Department  
28690 N. Ballard Drive  
Lake Forest, IL 60045

If MABIS Healthcare determines that the unit failed to operate due to a manufacturing defect, the unit will be repaired or replaced at the option of MABIS Healthcare. Repair or replacement of the unit is the sole remedy under this limited warranty. This warranty gives you specific legal rights, which vary from state to state. As a condition of this warranty, the enclosed warranty registration card must be completed and sent to us within 10 days of the purchase date.

This Limited Warranty constitutes MABIS Healthcare's only responsibility and obligation to repair and/or replace materials or components. We make no other express or implied warranties, arising by operation of law or otherwise, or any warranty of merchantability or fitness for a particular use or purpose whether or not the use or purpose has been disclosed to MABIS Healthcare in specifications, drawings or otherwise, and whether or not MABIS Healthcare's products are specifically designed and/or manufactured by MABIS Healthcare for the buyer's use or purposes, except for the limited warranty stated above. MABIS will not be responsible for any indirect, incidental, special, consequential, or punitive damages or other loss, including, but not limited to, damage to or loss of other property or equipment and personal injuries, whether to purchaser or others. MABIS shall in no event be liable to the purchaser for any amount in excess of the cost of repair and/or replacement of the unit.



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# INTRODUCTION

**To achieve the maximum benefit from your blood pressure monitor, we recommend that you first consult with your physician or trained healthcare professional.**

Thank you for purchasing a MABIS Dot Matrix Automatic Wrist Digital Blood Pressure Monitor. With proper care and use, your monitor will provide you with many years of reliable readings.

The method of measurement that your Wrist Monitor uses is called the oscillometric method. The monitor detects your blood's movement through the artery in your wrist and converts the movements into a digital reading. The oscillometric method does not require a stethoscope, making the monitor easy to use. The preformed cuff requires little effort to apply and is comfortable to wear.

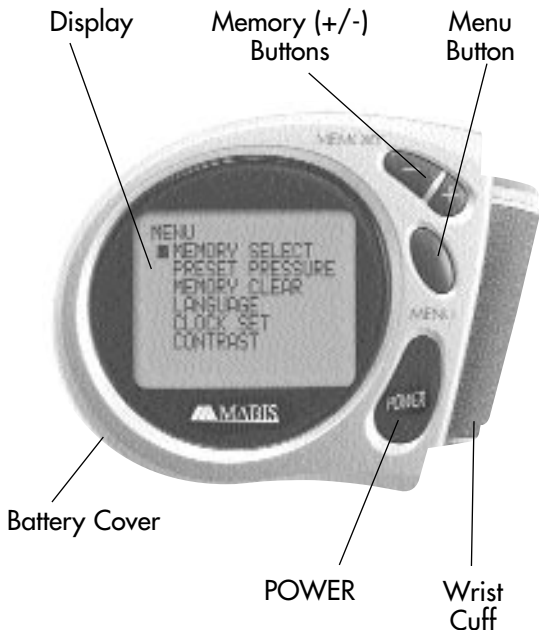
Your Wrist Monitor is specially enhanced with on-screen instructions in five different languages. Up to 30 readings per memory bank (60 total measurements) can be viewed on charts or graphs including an average of the readings stored. Your monitor is also designed to take measurements quickly and deflate even faster for increased comfort.

Clinical research has proven a direct relationship between blood pressure in the wrist and blood pressure in the arm. Because the arteries in the wrist and the arm are connected, changes in wrist blood pressure reflect changes in arm blood pressure. Consistent wrist measurements will provide you and your physician with an accurate indication of change in your true blood pressure.

Blood pressure readings determined with this device are equivalent to measurements obtained by a trained observer using the cuff/stethoscope auscultation method, within the limits prescribed by the American National Standard for Electronic or Automated Sphygmomanometers.

This monitor is designed to function in accordance with the specifications for persons with common arrhythmias, such as arterial or ventricular premature beats or arterial fibrillation.

# PRODUCT IDENTIFICATION



## CAUTION:

You can stop the inflation or deflation process anytime by pressing the POWER button.

# GENERAL BLOOD PRESSURE INFORMATION

## **What is Blood Pressure?**

Blood pressure is the pressure that is exerted by blood flowing against the walls of the blood vessels throughout your body.

Your heart, which is the center of the circulatory system, provides the force for the blood to flow or circulate. When your heart contracts or beats, the blood is forced through the blood vessels increasing the pressure. This is the highest pressure in the cycle or what is referred to as **SYSTOLIC** blood pressure. In between beats, your heart relaxes and your blood pressure decreases. This is referred to as **DIASTOLIC** blood pressure.

This complete series of events, which occurs in a single heartbeat, is known as the **CARDIAC CYCLE**.

Your Wrist Monitor will automatically read your blood pressure and display both systolic and diastolic readings on the screen.

Your systolic will be positioned as the upper number and the diastolic reading will be the lower number.

(systolic)  
**120/80**  
(diastolic)



Blood pressure is measured in millimeters (mm) of mercury (Hg) and is generally recorded with the systolic pressure (120) listed first and the diastolic pressure (80) listed second. The numbers are typically separated by a slash mark (/) as shown above.

Both pressure readings, the **SYSTOLIC** and **DIASTOLIC**, are necessary for a physician to evaluate the status of a patient's blood pressure.

**Please contact your physician for specific information regarding your own blood pressure.**

## ***Why Monitor Your Blood Pressure at Home?***

Many people experience “White Coat Syndrome”, which is a temporary elevation of blood pressure during a visit at their physician’s office. Although only temporary, it can cause blood pressure to rise and give a false indication of a person’s true blood pressure.

Whether or not you experience “White Coat Syndrome”, home blood pressure monitoring provides:

- 1)** The opportunity to supplement your physician’s office measurements.
- 2)** An accurate indication of any change.
- 3)** A record to assist your physician in evaluating your health and making important decisions.
- 4)** Consistent, daily measurements of your blood pressure.



**NOTE:** The variations in your individual readings should only be interpreted by your physician or trained healthcare professional.

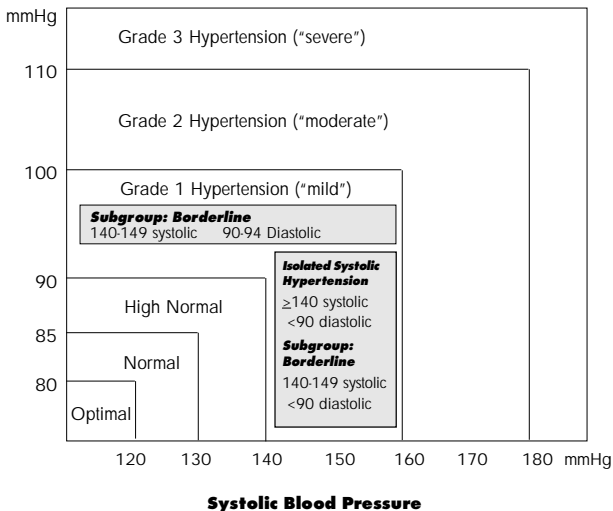
## ***What Influences Blood Pressure?***

Many factors such as genetics, age, sex, altitude, physical activity, anxiety, muscular development, certain medications or even the time of day can influence blood pressure. Influences such as sleep or relaxation decrease blood pressure, while anxiety or exercise increase blood pressure.

# WHO BLOOD PRESSURE CLASSIFICATIONS

Standards for assessment of high or low blood pressure have been established by the World Health Organization (WHO) as shown on the following chart:

## Diastolic Blood Pressure



This chart is **only a general guideline**. Contact your physician or trained healthcare professional to determine your **NORMAL BLOOD PRESSURE**.



# VARIATIONS IN BLOOD PRESSURE

Blood pressure is influenced by many factors and can change from moment to moment. Normally, blood pressure is lowest during sleeping periods and rises during the day. The graph below represents variations in blood pressure shown over a day with measurements taken every 5 minutes.



The dotted line represents the sleep period. The rise in blood pressure at 1pm (**A in the graph**) corresponds to a stressful occurrence and at 7 pm (**B in the graph**) a period of exercise.

# **IMPORTANT INFORMATION BEFORE USE**

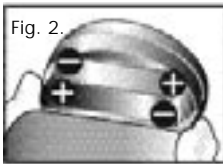
- 1.** Blood pressure readings should be interpreted by a physician or trained healthcare professional, who is familiar with your medical history.
- 2.** Perform your measurement in a quiet place. You should be seated and relaxed.
- 3.** Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If you are exhibiting signs of stress, avoid taking your measurement until the feeling subsides.
- 4.** Rest 15 minutes prior to taking a reading.
- 5.** Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
- 6.** Keep the monitor stable during measurements. Remain still; do not talk during measurements.
- 7.** Record your daily readings on a chart.
- 8.** Take your readings at the same time, each day (or as recommended by your physician).
- 9.** Wait a minimum of 15 minutes between readings. The wait time may vary depending on individual physiological characteristics.
- 10.** This device is intended for adult use.
- 11.** The inflation or deflation process can be stopped by pressing the POWER button.

My name's Nurse Dottie. I'm here to help you use your monitor safely and effectively.



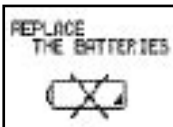
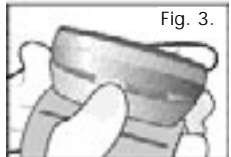
## BATTERY INSTALLATION/REPLACEMENT

1. Lightly press the battery cover and remove in the direction of the arrow, Fig. 1.



2. Install two "AAA" batteries making sure the polarity is correct, Fig. 2.

3. Hook the sides of the battery cover and slide it back into place to close, Fig. 3.



**NOTE:** Replace the batteries when the Low Battery Indicator appears on the display. Use new "AAA" batteries. Do not use rechargeable batteries.

**IMPORTANT!** If you remove the batteries, the Menu features will return to the default settings. Readings stored in M1 or M2 (memory) will be semi-permanently retained if the batteries are removed.

# BUTTONS



Your monitor has four buttons:

## **MENU =**

- View the menu
- To select/set

## **+/- KEYS =**

- View memory
- Toggle/scroll between features
- Move the cursor



## **POWER =**

- Turn unit on/begin measurement process
- To set a feature
- Turn unit off

## **REMEMBER!**



Memory keys (+/-) are for retrieving stored readings.



Menu key is for viewing the feature menu.



In 30 SECONDS, the monitor will automatically shut off after the last keyed entry.

# FEATURE LIST



Your monitor has six great features designed to assist you and your physician in the evaluation of your health.

Using the following steps, try scrolling through the Feature list by moving the cursor up and down several times **(+/- keys)** before moving on to the next section.

- Press MENU button to view the Feature list.
- Use the MEMORY (+/- keys) to move the cursor.
- Press MENU button to enter into the selected feature.  
(To exit, press POWER)



**\* NOTE:** Memory Clear only appears when readings are stored and either M1 or M2.

**DEFAULT SETTINGS** - The features have the following default settings:

<u>FEATURE</u>	<u>DEFAULT SETTING</u>
MEMORY SELECT	M1
PRESET PRESSURE	180 mmHg
LANGUAGE	English
CLOCK	Jan 1 2001 00:00 Clock Display OFF
CONTRAST	5



## REMEMBER!

- 1)** No change is needed if you agree with the defaults.
- 2)** The last entry made before the monitor is turned off, will keep the next time it is turned on. The features will only change back to the original default settings when the batteries are removed.

## USING THE FEATURES



Using what you've learned, let's use the features:

### **MEMORY SELECT** - Default = M1

Your unit has two Memory banks, M1 & M2 or **OFF** for no memory storage. M1 or M2 can store up to 30 measurements each.



- 1) Press MENU to enter Feature list
- 2) Press MENU for "Memory Select"
- 3) Use MEMORY (+/-) keys to see and select M1, M2 or OFF
- 4) Press POWER to turn off.

**NOTE!** Each memory bank can store up to 30 readings. When the number of readings exceeds 30, the oldest data will be replaced with the new record.



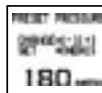
### **TIP!**

Use the two Memory banks for:

- 1) Two person usage
- 2) One person usage - M1 for morning readings and M2 for evening readings.

### **PRESET PRESSURE** - Default = 180 mmHg

Program the monitor based on your personal estimated Systolic pressure. The Systolic is the first number listed in a reading. **ie. 120/80.** The Preset Pressure should be 30 mmHg higher than the last known Systolic pressure. For example, add 120 (example of last known systolic) + 30 mmHg = 150 mmHg Preset Pressure.



Unsure of your Systolic pressure? Ask your healthcare professional or use the default setting of 180 mmHg.

- 1)** Press MENU to enter Feature list
- 2)** Scroll (+/-) to "Preset Pressure"
- 3)** Press MENU button
- 4)** Use (+/-) keys to increase or decrease the pressure in increments of 10. The pressure should be 30mmHg higher than your known Systolic pressure.
- 5)** Press POWER to turn off.

The available range is 150 - 300 mmHg.

### **MEMORY CLEAR**

This feature will only display after measured data has been stored (see Memory Select). Stored readings can be deleted from each memory bank.



Choose the Memory Bank 1 or 2:

- 1)** Press MENU to enter Feature list
- 2)** Press MENU button for "Memory Select"
- 3)** Scroll (+/-) to select either M1 or M2
- 4)** Press POWER to turn off

**NOTE!** Pressing Power will allow you to exit "Memory Clear" without deleting any readings.

Memory Clear:

- 5)** Re-enter Feature list by pressing MENU
- 6)** Scroll (+/-) to "Memory Clear" and press MENU
- 7)** Use (+/-) keys to move the cursor in front of the reading to be deleted.
- 8)** Press MENU to delete. The numbering sequence will reflect the change.

Repeat as needed.

- 9)** Press POWER to turn off or to exit.

## **LANGUAGE** - Default = English

Choose from English, German, French, Italian and Spanish on-screen instructions. English is set as the default.



- 1)** Press MENU to enter Feature list
- 2)** Scroll (+/-) to select "Language"
- 3)** Use (+/-) to select the desired language
- 4)** Press POWER to turn off.



### **REMEMBER!**

If you choose a language that you are not familiar with, "Language" is the third to the last item on the Feature list. Features are displayed in the following order:

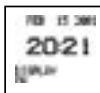
MEMORY SELECT  
PRESET PRESSURE  
MEMORY CLEAR\*  
LANGUAGE  
CLOCK SET  
CONTRAST

\*Memory Clear only appears when readings are stored and either M1 or M2.

### **REMINDER!**

If you remove the batteries, unit will return to default settings.

**CLOCK SET - Reminder!** The monitor may shut off if too much time (approximately 30 seconds) lapses during keyed entry. Any keyed information will be retained. Simply use the MENU button to scroll to the place left off.



- 1)** Press MENU to enter Feature list
- 2)** Scroll (+/-) to select "Clock Set"

Upon choosing Clock Set, the year will flash.



## TRY THIS!

Move between the options on the Clock Set (flashing) the next option. Continue to press MENU until you return back to the “flashing” year.



- To change the year (flashing):  
Use the (+/-) keys to current year. Press MENU to set.
- To change the month (flashing):  
Use the (+/-) keys to current month. Press MENU to set.
- To change the date (flashing):  
Use the (+/-) keys to current date. Press MENU to set.
- To change the hour in military time (flashing):  
Use the (+/-) keys to current hour. Press MENU to set.
- To change the minutes (flashing):  
Use the (+/-) keys to current minutes. Press MENU to set.
- To change time display option (flashing):  
Use the (+/-) keys to select (ON) for time to display and (OFF) for a blank screen. Press MENU to set. Press POWER when “Clock Set” is complete.

If ON is selected, the time will display when the monitor is not in use -- just like a wristwatch.

**NOTE!** Battery will last approximately 2 months with one measurement a day when clock display is set to ON, or approximately 10 months when set to OFF.

## **CONTRAST - Default = 5**

The adjustment range is 1 to 10 with 10 being the strongest contrast.



- 1)** Press MENU to enter Feature list
- 2)** Scroll (+/-) to select “Clock Set”
- 3)** Use the (+/-) to select a contrast from 1 through 10
- 4)** Press POWER to turn off

# APPLYING YOUR BLOOD PRESSURE CUFF

Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior taking a reading. If you are exhibiting signs of stress, avoid taking your measurement until the feeling subsides. Rest 15 minutes prior to taking a reading.



**NOTE:** If for any reason you are unable to or should not use your left wrist, please modify the following instructions and apply the cuff to your right wrist. Your physician can tell you which wrist is best for you to use.

1. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
2. Be seated with your feet flat on the floor.
3. Hold your left arm in front of you with your palm facing upward.
4. Apply the preformed cuff to your left wrist. Position the digital display panel to the inside area of your wrist, Fig. 1.
5. Adjust the cuff as shown, from the edge of the "Head of the Ulna Bone" or two finger widths (1") down from the bend in the wrist.
6. Wrap and fasten the cuff securely, (not too tight) yet comfortably around your wrist.



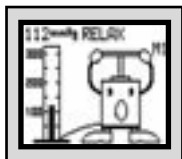
**NOTE:** Use the left wrist unless you are unable to or should not use your left arm or wrist. In consultation with your physician, you may modify the following instructions and apply the cuff to your right wrist.

# TAKING YOUR BLOOD PRESSURE READING

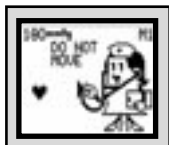
Proceed only after reading the previous sections of this manual.

- Select Memory Bank (M1 or M2.) See Memory Select under “Using Features”
- Set the Preset Pressure 30 mmHg higher than your known Systolic pressure or leave at the preset pressure of 180 mmHg if you do not know your pressure. See Preset Pressure under “Using Features”.

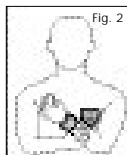
**1.** Rest your elbow on a table, lightly open your hand with your palm facing upward. Adjust your arm so that the cuff is at the same level as your heart, Fig. 1. Relax.



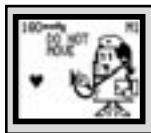
**2.** Press the POWER button. The cuff automatically begins to inflate. Do not talk or move during the measurement.



**3.** The cuff will quickly inflate to the preset level, Fig. 2, and will get tighter around your wrist. If the cuff becomes too tight, press the POWER button and rewrap the cuff leaving a little more room between the cuff and your wrist. You can stop the measurement/inflation at any time by pressing the POWER button.

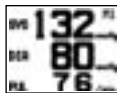


**4.** The heart symbol on the display will flash while the cuff pressure decreases, Fig. 3. Do not be alarmed by the changing numbers or if the numbers appear to be higher than your normal pressure.



**5.** When the measurement is complete, the cuff will automatically deflate releasing the cuff's air pressure. Your monitor features "quick exhaust" for added comfort.

**6.** The display will show your blood pressure (Systolic and Diastolic) measurements and pulse rate, Fig. 4.



**7.** Your reading will automatically store into the bank that was selected prior to starting the measurement.

Press the POWER button to turn the unit off. Otherwise the unit will automatically turn off in approximately 30 seconds.

## **AUTOMATIC REPRESSURIZATION**

If the pressure is insufficient during the early phase of measurement or if movement is detected, the unit will re-inflate to a level approximately 30mmHg higher than the preset. Repressurization is not always an indication of a problem and may be repeated.

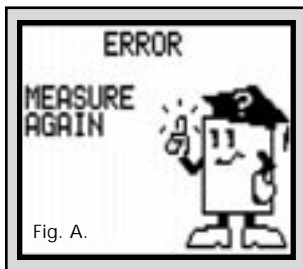
## **TEST MODE**

If the POWER button is held down too long (approximately 2 seconds), the display will enter TEST MODE or the Power will turn off. In either case, press the POWER button twice to restart the measurement.

## **ERROR DISPLAY**

The Error Display symbol, Fig. A, will appear for the following:

- 1)** Noise, movement or talking during measurement.
- 2)** Inadequate pressure for cuff inflation due to movement or talking during measurement.
- 3)** Wrist cuff improperly applied (too tight, too loose, improper position).



## **RECALLING MEASUREMENTS IN MEMORY**

Recall up to 30 measurements in each memory bank.

Make sure you've selected the proper Memory Bank for the reading to be viewed. See Memory Select under "Features".

## MEMORY

Press either MEMORY (+/-) key to view stored data. The most recent recorded reading will display. Press (-) key to view previously stored readings, with number one being the oldest recording, Fig.1.

### Memory Data Number

The memory data number 1 is the oldest data in memory.

Memory  
Bank 1



Fig. 1.

## AVERAGE

Continue to press (+/-) until the AVERAGE screen appears, Fig. 2. This screen calculates an average of the stored readings in each memory bank.

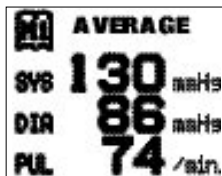


Fig. 2

## LIST

Stored readings can also be viewed on a list. Press either MEMORY (+ or -) key to enter mode. Press MENU to view readings including an Average in a list format. Use (+/-) keys to scroll and select specific reading, Fig. 3.



Fig. 3

## GRAPH

Press MENU to view readings in a graph format (remember to first enter the Memory mode by pressing either the (+ or -) key). The highlighted reading that is selected in "LIST" is the measurement that flashes on the graph. Press MENU again for the highlighted reading to appear on the display, Fig. 4.

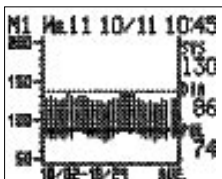
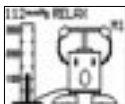


Fig. 4

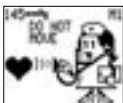
Use the MEMORY (+ or -) keys to view the next or previously stored data. Use the MENU button to change display modes.

# DESCRIPTION OF DISPLAY SYMBOLS

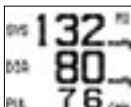
Inflation or re-inflation.



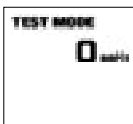
As pressure descends, the heart symbol flashes as the pulse is detected.



Measurement completed.



If the POWER button is held down too long, the monitor will enter "Test Mode". Press POWER to shut off.



Nurse Dottie.





# TROUBLESHOOTING

If any abnormality occurs during use, please check and correct the following:

<b>CONDITION</b>	<b>CORRECTION</b>
Display is blank when power is on.	Check the polarity of the batteries. Reinstall or replace batteries. Clean the battery compartment with a dry cloth.
Measurement incomplete or abnormally low or high values displayed.	Review and follow "Applying Your Blood Pressure Cuff" and "Taking Your Blood Pressure Reading" sections. Is your posture is correct? Is the cuff wrapped correctly? Are you quiet during measurement?
"Error" displays.	Turn power off and take another measurement. Remain quiet, do not move during measurement. Is the cuff too loose, too tight, in the correct position? Review and follow "Applying Your Blood Pressure Cuff" and "Taking Your Blood Pressure Reading" sections.
The display reads "TEST MODE."	If the POWER button is held down too long (approximately 2 seconds), press the POWER button again to restart the measurement.
The Power turns off when the POWER button is pressed.	If the POWER button is held down too long (approximately 2 seconds), press the POWER button again to restart the measurement.
Measurements are different from those typically measured by physician or every measurement reading is different.	Remember, blood pressure readings are influenced by physical and mental conditions and/or even the time of day. Daily measurements should be interpreted by your physician.

## **CARE AND MAINTENANCE**

- 1.** Only use a soft, dry cloth to clean your blood pressure monitor.
- 2.** Avoid using any types of liquids on the monitor or cuff.
- 3.** Store your monitor in the provided storage case when not in use.
- 4.** Do not store the unit where it will be exposed to direct sunlight, dust or humidity. Avoid extreme temperatures.
- 5.** Never disassemble the monitor or cuff.
- 6.** Dropping or subjecting your blood pressure monitor to strong shocks should be avoided.

# PRODUCT SPECIFICATIONS

<b>NAME AND MODEL NUMBER</b>	Dot-Matrix Automatic Wrist Digital Blood Pressure Monitor, 04-255-001
<b>DISPLAY SYSTEM</b>	Digital display/LCD (Dot-matrix, LCD)
<b>MEASURING METHOD</b>	Oscillometric method
<b>POWER SOURCE</b>	Two (2) "AAA" batteries
<b>MEASURING RANGE</b>	50-250 mmHg (systolic); 40-180 mmHg (diastolic); 40-160 pulse/min. (pulse rate)
<b>ACCURACY</b>	Pressure: $\pm 3$ mmHg Pulse: $\pm 5\%$ of reading
<b>PRESSURIZATION</b>	Automatic (air pump)
<b>DEFLATION</b>	Automatic (electric control valve)
<b>EXHAUST</b>	Automatic quick exhaust
<b>MEMORY</b>	2 x 30 measurements plus average (60 total measurements)
<b>OPERATION TEMPERATURE</b>	50°F - 104°F (10°C - 40°C)
<b>HUMIDITY</b>	85% relative humidity or below
<b>STORAGE TEMPERATURE</b>	23°F - 122°F (-5°C - 50°C)
<b>HUMIDITY</b>	85% relative humidity or below
<b>WEIGHT</b>	4.1 oz. (without batteries)
<b>MONITOR DIMENSIONS</b>	3-3/8" x 3" x 1-/14"
<b>WRIST CIRCUMFERENCE</b>	4-7/8" to 8-1/16"
<b>ACCESSORIES</b>	Storage case, instruction manual, two "AAA" batteries

Specifications are subject to change without notice.

#91-032-255 01/02

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# SAMPLE BLOOD PRESSURE LOG

**Name:**

**Age:**

**Weight:**

Date	1/2	1/3	1/4															
Time	7:00 <i>am</i>	9:30 <i>pm</i>	7:30 <i>am</i>															
mmHg																		
240																		
220																		
200																		
180																		
160																		
140																		
130																		
120																		
100																		
80																		
60																		
Pulse	68	71	69															
Body Condition	<i>Headache in AM</i>		<i>Tired, Restless Night</i>															